

Climatological Data for June, 1910. DISTRICT No. 12, COLUMBIA VALLEY.

EDWARD A. BEALS, District Editor.

GENERAL SUMMARY.

June, 1910, in the Columbia Valley was a quiet month, with no severe storms nor any wide departures from normal conditions. The rainfall was deficient, which caused unusually low stages in the smaller tributaries of the main rivers, and in some localities a scarcity of water for irrigation and mining purposes. Navigation was suspended in the upper stretches of the Willamette River on account of low water in connection with gravel bars which formed during the high water last winter. The rain that fell came opportunely, and the deficiency was not so noticeable in the agricultural sections as otherwise would have been the case. The temperature extremes covered a wide range as is usual, without being damaging. The very low temperatures all occurred at high elevations, where they are common nearly every month in the year, and the high temperatures were not higher than usual for the month of June.

Outdoor work proceeded without interruption, and crops in general made favorable advancement.

TEMPERATURE.

The mean temperature, as determined from the records of 223 stations, was 59.8°, which is 0.5° below the average. Over the eastern portion of the district, the mean temperatures were generally above the normal, while elsewhere abnormally low mean temperatures obtained. The greatest departures below the seasonal average were -4.7° in the Yakima Valley of central Washington, -3.8° in southwestern Oregon, -2.5° to -3.5° in western and northwestern Washington, and also in portions of the Snake River Valley. The greatest departures above the normal temperatures were +3.0° and over in Idaho, eastern Oregon, and eastern Montana.

The warmest sections were in the drainage area of the Snake River along the middle portion of its course, where mean temperatures of 65° to 78° occurred, and along the lower course of the Columbia River in central Washington and as far as the mouth of Deschutes River, where the mean temperatures were 60° to 68°. The coolest sections were, as usual, along the coasts, and in the elevated districts of the interior.

There were no really pronounced cold spells, the minimum temperatures were generally recorded during the first three days over the western portion of the district, while in Montana the cold period was prolonged throughout the greater portion of the first decade. Relatively cool weather obtained on the 12th and 13th, and again on the 21st, 22d, 23d, and 24th. Abnormally warm weather obtained quite generally on the 9th and 10th and from the 24th to 26th, while in the extreme eastern portion of the district the latter period was prolonged another day, and other relatively warm spells were the 14th and 15th, as well as the 18th and 19th.

The highest mean temperature was 78.6° at Huntington, Oreg., in the Blue Mountains, on the watershed of the Snake River, at an elevation of 2,110 feet, and the lowest was 45.3° at Musick, Oreg., in the Umpqua River drainage area, at an elevation of 5,000 feet. The highest recorded temperature was 105° at Vale, Oreg., in the Malheur River Basin, at an elevation of 2,450 feet, on the 26th, and the lowest was 20° at Range, Oreg., in the John Day Basin, at an elevation of 3,500 feet, on the 2d, 6th, and 7th.

PRECIPITATION.

The average precipitation, as determined from the records of 323 stations, was 0.85 inch, which is about 0.50 inch below the normal. The monthly amounts were more than 1.00 inch less than the average in portions of the coast drainage area in northwestern Oregon and northwestern Washington, in the

Grande Ronde River Basin in northeastern Oregon, near the headwaters of the Snake River in Idaho, and in the upper valley of the Columbia in eastern Washington, as well as near the headwaters of its branches in Montana. In only a few localities were there excesses of June rainfall and the amounts were generally small. The rainfall was generally quite well distributed throughout the month, and the precipitation, as usual, was heaviest along the slopes of the Cascade Mountains and westward to the coast. Although amounts of 1.00 inch and over fell during the month in portions of central and north-eastern Oregon, in northeastern Washington, northern Idaho, and western Montana, there was at the end of the month a general need of more rain in that portion of the district lying east of the Cascade Mountains.

The greatest monthly precipitation was 4.55 inches at Musick, Oreg., on the Umpqua watershed, at an elevation of 5,000 feet, and none occurred at 7 stations in the interior, at elevations between 1,200 and 3,100 feet. The greatest 24-hour rainfall was 2.50 inches at Quinalt, Wash., on the 20th. Other heavy 24-hour falls of 1 inch or over occurred on the 11th at 20 stations, on the 19th at 1 station, and on the 20th at 5 stations, besides the one mentioned above. These stations are all in the Coast, Puget Sound, or the lower Columbia drainage areas.

The snow in the higher elevations was nearly all melted at the end of the month, there being only a small amount left in the less exposed places. This melting took place a month to six weeks earlier than usual, and the flow of water in all interior streams was the average for the season. As a consequence, the flow of water for irrigation purposes in some sections will probably be less than needed, and placer mining is already being hampered by lack of sufficient stream flow.

THE RIVERS.

May closed with generally falling stages at all river-gaging stations, and the decrease throughout the month of June was, for the most part, quite uniform. The June rains were quite well distributed throughout the district, but the periods of heaviest rainfall occurred near the end of the first and also near the end of the second decade, and though the precipitation, in some instances was comparatively heavy, the excess, or run-off, operated merely to produce a slight rise in the streams for a day or so, when the falling stages recommenced. The highest stages were near the 1st of the month, in most cases occurring on the 1st, while the lowest readings were recorded quite generally on the last day of the month.

The Columbia.—The falling stages of the water at the various stations, as noted on the last of May, really marked the end of the annual rise in the Columbia, and the waters continued falling during June. The highest stages occurred quite generally on June 1, though in some instances there was a delay until the 3d or 4th, and the stages registered for several days were approximately the same. The only really rainy period of the month occurred during the second decade, but as the greater portion of the water was absorbed by the soil, there was no marked change in the slowly decreasing stages of the river, and the lowest readings of the month occurred uniformly on the 30th. A 13-year record at Cascade Locks shows two instances where the June stages at that station were lower than that for the present year; at Celilo, with an 8-year record, two lower stages are recorded; at Umatilla, a record of 16 years shows three lower mean stages, and the same number of lower stages are shown at Wenatchee, which has a record for 11 years, while at The Dalles, where records have been kept for 17 years, there have been 4 years when the mean June stages were lower than that of the present June.

As compared with past years' stages, the average for the month was: At Wenatchee, 2.4 feet below the normal; at Umatilla, 3.0 feet below; at Northport, 4.0 feet below; at Vancouver, 4.7 feet below; at The Dalles, 5.0 feet below, and at Cascade Locks, 8.2 feet below. As compared with the height of the water during the preceding month, the mean stage was 1.8 foot lower at Wenatchee, 2.6 feet lower at Umatilla, 3.3 feet lower at Vancouver, and 4.7 feet lower at The Dalles, while at Northport the mean June stage was 0.6 foot higher than that for May.

The river at Vancouver fell steadily from 17.2 feet on the 1st to 10.8 feet on the 30th; at the Dalles it rose from 28.9 feet on the 1st to 29.2 feet on the 3d and 4th, and then fell steadily to 20.3 feet on the 28th, on which date the river gage was destroyed by a boat colliding with the piling to which the gage was attached, the actual stage on June 30 was approximately 19.5 feet; at Umatilla the river was about stationary during the first 4 days of the month at a stage of 17.8 feet, but from the 5th to the close of the month there was an uninterrupted fall, the reading on the 30th being 12.9 feet; at Wenatchee there was a fall from 33.8 feet on the 1st to 27.2 feet on the 30th; and at Northport, the fall was from 22.6 on the 1st to 16.8 on the 30th.

Navigation on the Columbia was not interrupted during the month.

The Snake.—The mean of the daily stages at the several stations for the month averaged 4.5 feet below that for May, and it was 4.0 feet below the normal for June. The water was highest from the 2d to the 4th, and the lowest on the 30th. At Lewiston the river fell from 11.0 feet on the 1st to 3.4 feet on the 30th; at Weiser there was a slight rise from 7.5 feet on the 1st to 7.9 feet on the 4th, and then a gradual fall to 2.2 feet on the 30th; at Riparia, a rise from 10.2 feet on the 1st to 10.9 feet on the 2d and 3d was followed by falling stages, reaching a reading of 4.4 feet on the 30th. Navigation was not impeded, the regular weekly boat service to Asotin, Wash., which is 6 miles above Lewiston, being maintained throughout the month, and on June 9 a trip was made to the mouth of the Grande Ronde River, 38 miles above Lewiston. The boat service on the Snake River was, however, discontinued on June 30, owing to the low stage of the water, the gage reading at Lewiston on that date being 3.4 feet.

The Willamette.—This river continued to fall throughout June, the highest stages occurring on the 1st, and the lowest generally from the 28th to the 30th. At stations on tributary streams the highest water occurred between the 1st and the 12th, and at Estacada on the Clackamas River, the lowest reading occurred on the 15th, 27th, and 29th. The mean stage of the Willamette ranged between a normal stage at Wilsonville and 3.7 feet below normal at Portland, and was 2.1 feet below normal at Salem, and 1.6 foot below at Albany. The June mean stages at all stations were uniformly lower than those for the preceding month, being 1.3 foot lower at Eugene, 1.5 foot lower at Albany, 1.7 foot lower at Salem, and 3.3 feet lower at Portland. The great difference that appears at Portland was probably due to the high May stage which was caused by back-water from the Columbia.

At Eugene the fall from the 1st to the 30th was so gradual that, generally, it could not be readily measured, and the record shows 4 feet from the 1st to the 5th, inclusive, 3.6 feet on the 6th, and 3.0 feet for the remainder of the month. At Albany there was a steady fall from 2.3 feet on the 1st to 1.6 foot on the last 3 days of the month. At Salem, a stage of 1.5 foot on the 1st and 2d decreased to 0.6 foot on the 29th and 30th. At Wilsonville, there was a steady fall from 3.7 feet on the 1st to 2.1 feet on the 29th, a rise to 2.9 feet being recorded on the 30th, and at Portland, the fall was from 16.7 feet, which is 1.7 foot above flood stage, on the 1st to 10.4 feet, or 4.6 feet below the flood stage, on the 30th. On account of the low water and gravel bars, navigation was not possible above the mouth

of the Yamhill River, but regular trips were made throughout the month to Newberg, which is a few miles below that point.

REPORTS OF STAGES OF STREAMS IN MONTANA DURING JUNE, AND THE PROSPECTIVE FLOW OF WATER FOR THE REMAINDER OF THE SEASON.

Missoula watershed.—Bison Mountain: The Little Blackfoot is very much lower than usual. The snow in the mountains has all disappeared, the drifts having melted a month to 6 weeks earlier than usual. Bald Butte: There is less snow in the high mountains than for many years at this season. Hat Creek: There is no snow left in this locality, and the flow of water in the streams is now much below the average. The hay crop will be cut short on account of lack of water for irrigation. Ophir: Placer mining has been hampered by the shortage of water in the streams, the flow of which miners report to be less than half the average. No snow remains in places where it usually lasts till the latter part of July.

Bitterroot watershed.—Darby: The Bitterroot River is as low as it usually is at the beginning of August. There has been no shortage of water for irrigation up to the present time, but the supply for July and August will be largely dependent on rains. There is still some snow in the higher mountains, but there are fewer drifts than usual at the close of June. Sula: The East Fork is lower than usual at the close of June. The snow has melted earlier than usual in most places, but there are still some drifts remaining at high elevations in the Bitterroot Mountains.

Clarks Fork watershed.—The water is as low as it usually is a month later. The snow, except drifts, melted earlier than heretofore, and very little remained in the mountains at the end of June. Saltese: The St. Regis River is unusually low. The snow in the Bitterroot Mountains melted earlier than usual, and there will be a shortage of water during July and August. Noxon: The flow of water in Bull River was near the average during June. There are still some deep snow drifts on the north slopes, but the indications are for low water the remainder of the season.

Kootenai watershed.—Snowshoe: There is still some snow in the drainage basins of Snowshoe and Libby creeks, but the stage of water is lower than usual for June.—R. F. Young, Section Director.

MISCELLANEOUS PHENOMENA.

The prevailing winds were from the west. The amount of sunshine was nearly normal, except at Seattle, where there was a considerable deficiency. The percentage of possible sunshine was 75 at Spokane, 43 at Seattle, and 56 at Portland. Frosts were general in the interior during the early part of the month, serious damage to the apple crop resulting at a few places. Thunderstorms were of frequent occurrence and were reported generally on the 5th, 6th, 19th, and 20th. Several places suffered from hailstorms, that at Dufur, Oreg., on the 20th, which seriously damaged the apples over a wide area, being the severest. Sleet was reported at Ophir, Mont., on the 8th. Solar halos were observed on the 5th, 10th, 12th, and 25th, and in some places on other dates. An unusually severe sand storm occurred at The Dalles, Oreg., on the 11th. The highest wind was reported from North Head, Wash., where a maximum of 62 miles per hour from the southeast was reached on the 20th.

AVALANCHES IN THE CASCADES AND NORTHERN ROCKY MOUNTAINS DURING WINTER OF 1909-10.

By EDWARD A. BEALS, District Forecaster.

For a week beginning February 25 and ending March 3, 1910, there were a great many avalanches in the Cascade and northern Rocky mountains. Avalanches in these mountains are of common occurrence every year, but this year there were more than ever before known, and not only were they heavier and more frequent in places where they occur every year, but in places

TABLE 1.—Climatological data for June, 1910. District No. 12, Columbia Valley.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelting.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.		Number of cloudy days.	Prevailing wind direction.
Montana.																			
Anaconda	Deer Lodge	5,300	9	58.0	+ 3.3	91	27	28	3	43	1.04		0.32	0.0	7	17	10	3	C. D. Demond.
Bison	Powell	7,240									2.53		0.71	6.0	12	10	17	3	C. H. Anderson.
Columbia Falls	Flathead	3,100	16	58.2	+ 1.3	93	26	26	4	53	1.73	- 1.32	0.62	0.0	5	10	17	3	Mrs. I. M. Kennedy.
Comox	Ravalli		2	61.8		93	26	34	2	46	0.96		0.19	0.0	11	20	8	2	Hiram Platt.
Darby	do	3,825	1																W. A. Kerlee.
Dayton	Flathead	2,800	6	60.0		94	27	31	4	46	0.73		0.20	0.0	4	17	0	13	Charles Frost.
East Anaconda	Deer Lodge	5,500	5	59.6		99	25	28	3	36	1.18		0.23	0.0	8	17	10	3	C. D. Demond.
Fortine	Lincoln	2,975	4	56.4		82	26	27	4	52	0.64		0.34	0.0	5	16	9	5	Mike Petery.
Hamilton	Ravalli	3,575	7	62.4		97	26	30	3	44	0.59		0.20	0.0	6	21	9	0	J. B. Currie.
Hat Creek	Powell	6,000									2.75		0.68	0.0	12	10	13	7	M. K. Landreth.
Kalispell	Flathead	2,965	11	59.5	+ 0.7	91	26	33	4	42	0.40	- 1.34	0.16	0.0	9	11	15	4	U. S. Weather Bureau.
Lost Creek	Deer Lodge	5,200									1.60		0.48	0.0	5	16	9	5	Frank Henault.
McGinnis Meadows	Lincoln			57.4		90	25	28	4	54	0.65		0.45	0.0	12	9	14	5	H. L. Beebe.
Missoula	Missoula	3,225	33	63.0	+ 3.1	98	26	30	3	52	0.67	- 1.57	0.20	0.0	7	12	13	5	U. S. Weather Bureau.
Ophir	Powell	8,800									2.03		0.75	T.	8	12	13	5	E. S. Wilton.
Ovando	do	4,207	10	53.7	0.0	88	27	28	4	50	1.68	- 0.58	0.50	0.0	8				S. B. Muchmore.
Phillipsburg	Granite	5,275	7	58.2		93	27	27	3	54	2.13		0.42	T.	9	11	11	7	G. T. Bramble.
Plains	Sanders	2,475	12	60.2	+ 2.5	89	26	35	4	42	T.	- 1.62	T.	0.0	0	21	0	9	M. H. Pierce.
Pleasant Valley	Flathead	3,500	3	54.6		85	26	25	13	53	0.46		0.15	0.0	7	15	6	9	A. D. Stillman.
Polson	do	2,920	2	60.2		91	26	36	4	43	1.32		0.56	0.0	4				F. P. Brown.
St. Ignatius	Missoula	2,700	4	60.4		96	26	32	3	50	1.33		0.44	0.0	9	20	7	3	U. S. Reclamation Service.
St. Regis	do	2,650	2	59.8		95	26	30	13	58	0.26		0.17	0.0	13	11	16	3	R. D. Lee.
Saltee	do	3,600	6								0.30		0.30	0.0	1	29	1	0	E. K. Tarbox.
Snowshoe	Lincoln	4,500	4	53.8		80	10	32	2	35	1.21		0.52	1.0	11	16	7	7	J. C. Ritter.
Troy	do	1,880	14	60.2	+ 1.2	92	10	34	24	52	0.55	- 1.30	0.50	0.0	2	14	9	7	W. E. Milnor.
Upper Lake McDonald	Flathead	3,200	2	57.8		84	26	34	3	38	1.23		0.34	0.0	7	11	9	4	F. F. Liebig.
Wyoming.																			
Afton	Uinta	6,200	6	56.1	+ 1.3	88	27	24	3	53	0.29	- 0.90	0.12	0.0	3	28	2	0	A. V. Call.
Alta	do		1	54.4		84	27	25	3	50	0.20		0.12	0.0	3	15	13	2	Mrs. Lucy Brown.
Bedford	do	5,900	10	54.6	+ 1.7	87	27	25	3	54	0.04	- 1.47	0.04	0.0	1	24	4	2	C. G. Heiner.
Snake River	Yellowstone Park	7,000	4	52.4		86	27	22	4	55	0.10		0.10	0.0	1	16	13	1	U. S. Army.
Nevada.																			
San Jacinto	Elko			58.6		93	28	24	3	51	0.09		0.09	0.0	2	22	7	1	Moses Jones.
Utah.																			
Standrod	Boxelder		6	60.8		88	27	30	3	40	0.41		0.32	0.0	2	23	6	1	T. B. Jones.
Idaho.																			
Atlanta	Elmore	5,500	4								0.24		0.24	0.0	1	27	2	1	H. Warder Lewis.
Albion	Cassia		8	61.4		97	26	23	3	60	0.24		0.20	0.0	1	24	6	0	G. A. Axline.
Almo	do		2								0.20		0.20	0.0	1	24	6	0	Wm. L. Eames.
American Falls	Oneida	4,341		64.1	+ 3.1	99	27	32	3	53	0.20	- 0.73	0.10	0.0	12				O. H. Barber.
Blackfoot	Bingham	4,503	15	61.7	- 0.5	92	26	30	3	53	0.10	- 0.62	0.10	0.0	1	24	6	0	E. A. Dowd.
Blackfoot Dam	do	4,503	2	55.9		90	27	25	3	53	0.21		0.19	0.0	2	23	5	2	N. W. Irsfield.
Blanche	Lincoln		2																Mrs. Belle Hess.
Book's Ranch	Elmore	3,500									0.48		0.42	0.0	3	21	9	0	William Bock.
Bogus Creek	Boise	4,200	2								0.30		0.26	0.0	2	22	7	1	F. P. Ingraham.
Boise	Ada	2,770	25	66.0	0.0	100	26	38	8	39	0.30	- 0.58	0.26	0.0	2	22	7	1	U. S. Weather Bureau.
Bonnets Ferry	Bonner	1,850	4	58.4		91	16	32	4	51	1.37		0.70	0.0	7	10	15	5	W. H. Heideman.
Boulder Mine	Boise	4,800									0.35		0.20	0.0	1	28	2	0	Patrick Moriarty.
Buhl	Cassia	3,800	4	67.2		100	26	46	7	48	0.25		0.25	0.0	1	23	7	0	H. J. Idema.
Burke	Shoshone	4,082	3	52.8		85	10	29	2	46	0.89		0.34	T.	4	12	17	1	W. Alvin Hall.
Caldwell	Canyon	2,372	6	65.4		100	26	36	3	51	0.03		0.03	0.0	1	15	15	0	Prof. Wm. J. Boone.
Camas	Fremont	4,815	2	62.6		98	27	30	8	52	0.01		0.01	0.0	1	7	18	5	Mrs. Edna Faulkner.
Cambridge	Washington	2,651	13	64.8	+ 1.2	100	26	33	8	55	0.08	- 0.75	0.04	0.0	2				Chas. H. Shepherd.
Chesterfield	Bannock	5,424		57.4	+ 1.4	96	28	23	9	64	0.13	- 1.01	0.03	0.0	1	17	7	6	Chas. S. West.
Clawson	Fremont																		E. J. Hopkins.
Coeur d'Alene	Kootenai	2,157		61.4	+ 0.6	91	10	37	13	47	0.51	- 0.83	0.30	0.0	2				Jos. T. Scott.
Cottonwood Creek	Boise	4,000									0.25		0.25	0.0	1	24	0	6	Frank Hedrick.
Crawford	do	4,300	3																Mrs. Gertrude Kerby.
Culdesac	Nes Perce	1,520	2	62.6		100	10	34	10	54	T.		T.	0.0	0	19	9	2	R. R. Richmond.
Deary	Latah																		H. M. Call.
Dent	Nes Perce	1,350	5																Emil Schuessler.
Driggs	Fremont	6,097	3	57.2		88	27	27	3	51	0.14		0.10	0.0	2	16	10	4	Walter H. Durrant.
Edie	do			56.1		85	28	29	3	48	T.		T.	0.0	0	26	4	0	Geo. B. Edie.
Edwardsburg	Idaho	4,500																	W. A. Edwards.
Emmett	Canyon	2,350	4																E. L. Marvin.
Forney	Lemhi			58.8	+ 4.0	98	11	24	3	59	0.20	- 1.73	0.20	0.0	1	8	12	10	M. B. Merritt.
Garden Valley	Boise	3,600									6.26		0.16	0.0	2	23	7	0	Mrs. Gertrude M. Ross.
Garnet	Elmore	2,575	11																Aaa A. Kenison.
Gilbert	Nes Perce	3,030																	J. B. Loomis.
Glenns Ferry	Elmore	2,569	2																I. E. Perkins.
Gooding	Lincoln	3,572		65.4		101	26	31	3	54	0.08		0.08	0.0	1	24	6	0	John Krall, jr.
Grand Forks	Shoshone	3,000		55.4		91	10	27	4	57	0.26		0.14	0.0	2	17	11	2	Henry Kottkey.
Grandview	Owyhee	2,381		67.4		104	26	32	3	58	0.27		0.14	0.0	3	20	4	6	N. G. Massey.
Green Timber	Fremont																		Otto Stogelmeier.
Grimes Pass	Boise	5,200									0.13		0.12	0.0	2				Joseph M. Clarke.
Guffey	Owyhee	2,381	2	70.2		98	28	41	3	49	0.45		0.41	0.0	3	23	3	4	Fred Perry.
Halley	Blaine	5,347	6	62.0		92	26	32	8	46	0.06		0.03	0.0	2	24	3	3	U. S. Forest Service.
Hot Springs	Owyhee	2,752	5	69.4		104	26	36	8	50	T.		T.	0.0	0	24	6	0	J. M. Waterhouse.
Idaho City	Boise	4,000	10																Mrs. Emma Hammer.
Idaho Falls	Bingham	4,742	16	62.6	+ 3.8	95	27	30	3	53	0.14	- 1.16	0.11	0.0	3	22	4	4	Dr. T. M. Bridges.
Indian Valley	Washington																		

TABLE 1.—Climatological data for June, 1910. District No. 12—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.			Number of cloudy days.
Idaho—Cont'd.																				
Milner.....	Cassia.....	4,097	7	65.2		99	27	33	3	47	0.31		0.24	0.0	2	18	10	2	nw.	R. A. Hanson.
Moscow.....	Latah.....	2,748	18	57.6	- 1.0	89	10	34	14	50	T.	- 1.39	T.	0.0	0	11	11	8	w.	University of Idaho.
Mountainhome.....	Elmore.....	3,150	4	84.2		95	27	29	3	56	0.00		0.00	0.0	0	21	5	4	nw.	Mrs. Ellen Manion.
Murtaugh.....	Cassia.....	3,182	4	83.4		96	27	28	3	52	0.00		0.00	0.0	0				nw.	J. E. Steinour.
Nes Perce.....	Nes Perce.....	3,182	17	85.0	+ 2.1	98	27	32	4	50	0.10		0.10	0.0	1				nw.	P. Mitchell.
Oakley.....	Cassia.....	4,191	17	84.5		98	27	32	4	50	T.	- 0.81	T.	0.0	0	20	10	0	s.	John Adams.
O'Hara Bar.....	Idaho.....	1,400	5	82.5		95	10	37	6	53	0.23		0.10	0.0	4					U. S. Forest Service.
Orofino.....	Nes Perce.....	1,027	5	83.2		98	10	37	3	55	0.18		0.12	0.0	5	20	10	0		Geo. Alteneder.
Payette.....	Canyon.....	2,159	20	66.2	+ 0.3	102	26	34	9	59	0.13	- 0.52	0.07	0.0	2	20	7	3	n.	E. F. Allen.
Pebble.....	Bannock.....	5,277	2	58.1		92	27	25	9	56	0.15		0.09	0.0	2	18	9	3	sw.	Mrs. Fannie Say.
Pierson.....	Custer.....	7,000	2								0.18		0.18	0.0	1	24	1	5		David P. Clarke.
Pine.....	Elmore.....	4,100	3																	Mrs. Jennie Potter.
Placerville.....	Boise.....	4,200	3																	James McDevitt.
Pleasant Valley.....	Ada.....	3,000	11	65.2	+ 1.0	94	27	38	9	44	0.08	- 0.91	0.05	0.0	4	17	13	0	se.	C. E. Friedrich.
Pocatello.....	Bannock.....	4,483	3	58.8		91	14	28	9	53	0.27		0.21	0.0	2	24	6	0	sw.	U. S. Weather Bureau.
Pocatello Nursery.....	do.....	5,396	3																	Mrs. Anna M. Wrensted
Poplar.....	Bingham.....	1,665	22	58.7	- 1.0	89	26	34	4	49	1.60	- 0.06	0.42	0.0	7	20	7	3		Stanley Bybee.
Porthill.....	Bonner.....	4,300	3																	H. A. French.
Powers Ranch.....	Boise.....	3,100	4								0.22		0.15	0.0	3	22	3	5	ne.	Mrs. Mona B. Powers.
Pyle Creek.....	do.....	4,000	4																	Walter L. Cole.
Rattlesnake Creek.....	Elmore.....	4,400	4	83.6		99	26	32	3	53	0.01		0.01	0.0	1	26	2	2	w.	Richard M. Green.
Ruby Creek.....	Boise.....	4,204	4	82.6		98	26	32	3	58	0.42		0.21	0.0	3	23	5	2	w.	O. A. Hatter.
Rupert.....	Lincoln.....	4,400	4	65.7		98	26	34	3	45	C.05		0.03	0.0	2	21	7	2	nw.	Will Parry.
Salmon.....	Lemhi.....	4,440	5																	E. K. Abbott.
Salmon River Dam.....	Twin Falls.....	5,000	3	83.6		92	27	35	3		0.01		0.01	0.0	1	17	13	0	w.	A. H. Gilbert.
Shoshone.....	Boise.....	3,968	3								0.67		0.25	0.0	4	22	3	5	s.	Clifford M. Gardner.
Silver City.....	Owyhee.....	6,280	3																	O. A. Truman.
Smith Prairie.....	Elmore.....	5,200	3																	A. D. Bradfield.
Soldier.....	Blaine.....	5,200	3																	Wm. W. Newall.
Sugar.....	Fremont.....	4,420	2	60.0		90	27	31	3	52	0.11		0.11	0.0	1	18	0	3	sw.	W. W. Leek.
Sunnyside.....	Elmore.....	4,420	2	61.6		102	26	32	8	50	0.28		0.11	0.0	1	3			nw.	Geo. F. Webb.
Tilden.....	Bingham.....	4,300	3			98	27	28	3	55	T.		T.	0.0	0	20	9	1	sw.	E. A. Wilmet.
Tripod Mountain.....	Boise.....	4,300	5	64.0		100	26	30	9	60	0.35		0.24	0.0	2	22	7	1	w.	Mrs. W. A. Edwards.
Twin Falls.....	Twin Falls.....	3,825	13	60.2	+ 3.6	90	27	30	4	48	0.05	- 1.16	0.05	0.0	1	19	11	0	w.	Mrs. Verna Paddock.
Vernon.....	Fremont.....	2,728	3	58.7		93	10	33	4	52	0.71		0.20	0.0	8				sw.	J. A. Waters.
Wallace.....	Shoshone.....	3,400	2	67.4		102	26	32	3	52	0.05		0.05	0.0	1	24	6	0	w.	A. M. Slatery.
Wendell.....	Lincoln.....		19																	U. S. Weather Bureau.
Washington.																				
Aberdeen.....	Chehalis.....	162	19	55.5	- 1.1	86	10	41	23	37	3.31	- 0.31	1.56	0.0	5	1	29	0	w.	Carl S. Weatherwax.
Anacortes.....	Skagit.....	80	16	56.9		80	10	40	12	38	0.91	- 0.46	0.53	0.0	8	12	10	0		Douglas Allmond.
Baker.....	do.....	300	4	59.8		87	4	39	3	43	2.41		0.76	0.0	4	13	2	15		Robt. M. White.
Bellingham.....	Whatcom.....	60	15	56.3	- 2.0	77	10	34	23	32	1.79	+ 0.07	0.64	0.0	9	19	8	3		Sanford B. Mayhew.
Blaine.....	do.....	53	13			75	4	38	3	34	1.70	- 0.68	0.71	0.0	6	11	16	3	sw.	John W. Sheets.
Blewett.....	Chelan.....	2,300	3																	John Burmeister.
Bremerton.....	Kitsap.....										0.66		0.36	0.0	7					U. S. Navy Yard.
Brewster.....	Okanogan.....			64.3		93	10	38	21	38	0.22		0.11	0.0	4	14	11	5	s.	Mrs. H. F. Bertram.
Bumping Lake.....	Yakima.....			51.8		85	10	26	2	41	1.52		0.60	0.0	3	19	5	6		U. S. Reclamation Service.
Cashmere.....	Chelan.....		3								0.21		0.17	0.0	2	14	16	0	nw.	Valley Power Co.
Cedar River.....	King.....										1.74		0.68	0.0	9	3	18			George Landsburg.
Centralia.....	Lewis.....	212	17	57.6	- 1.9	96	10	35	2	48	2.02	- 0.28	0.75	0.0	7	11	16	3	w.	I. S. Turner.
Cheney.....	Spokane.....	2,351	11	60.4		93	10	35	5	53	1.10	+ 0.16	0.90	0.0	2	17	3	8	sw.	Northern Pacific Ry.
Clealum.....	Kittitas.....	1,930	11	55.7	- 0.4	90	10	30	3	51	0.69	- 0.29	0.35	0.0	3	24	5	1	nw.	J. A. Balmer.
Clearbrook.....	Whatcom.....	140	7																	Geo. Gibbs.
Clearwater.....	Jefferson.....	135	14																	A. Ritchie.
Colfax.....	Whitman.....	2,300	21	58.8	- 0.1	92	10	31	13	51	0.37	- 0.67	0.17	0.0	3					W. H. James.
Colville.....	Stevens.....	1,635	10	58.9	- 3.3	92	10	32	4	53	1.15	- 0.36	0.63	0.0	8	10	9	11	sw.	W. L. Sax.
Conconully.....	Okanogan.....	2,300	10	58.2	- 1.4	87	10	33	3	40	0.59	- 0.95	0.19	0.0	9	14	6	10	s.	Wm. Baines.
Cowiche.....	Yakima.....			62.2		93	1	39	12	38	0.49		0.31	0.0	5	23	4	3	nw.	U. S. Reclamation Service.
Crescent.....	Lincoln.....	2,250	10	58.6		91	10	31	13	56	0.36		0.22	0.0	2	25	3	2	sw.	Otto Wollweber.
Davenport.....	do.....	2,450	1	59.4		90	10	33	21	43	0.73		0.24	0.0	4	20	9	1	sw.	W. H. Reed.
Dayton.....	Columbia.....	1,700	24	62.9	+ 0.6	96	10	40	8	38	0.54	- 0.65	0.47	0.0	2	18	12	0	sw.	W. W. Hendron.
Detroit.....	Mason.....	30	2	58.0		88	10	39	3	47	1.24		0.64	0.0	8	14	13	3	sw.	Walter O. Eckert.
Dixie.....	Walla Walla.....	5,000	1								1.15		0.60	0.0	6	16	4	10	sw.	T. Z. Andrews.
Duckabush.....	Jefferson.....	380	2	57.4		90	10	39	27	46	2.78		1.52	0.0	13	9	11	9	n.	E. J. Finch.
East Sound.....	San Juan.....	500	15																	Benj. E. Harrison.
Ellensburg.....	Kittitas.....	1,571	22	60.9	- 0.3	96	10	34	20	53	0.44	- 0.24	0.20	0.0	4	23	7	0	nw.	R. Lee Barnes.
Ephrata.....	Grant.....	1,265	7	65.8		94	10	44	21	36	0.00		0.00	0.0	7	15	14	1	s.	T. J. Cook.
Forks.....	Callam.....	1,490	1	56.5		82	3	39	3	43	2.51		0.70	0.0	7	10	8	11	s.	E. A. Markham.
Fort Simcoe.....	Yakima.....	1,427	16	59.9	- 4.7	95	10	30	2	45	0.30	- 0.20	0.30	0.0	1	22	6	2		Frank C. Hill.
Goat Lake.....	Shoshone.....	2,900	1																	C. M. Mackintosh.
Gold Creek.....	Yakima.....	2,600	4																	

TABLE 1.—Climatological data for June, 1910. District No. 12—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.		Number of cloudy days.	Prevailing wind direction.
Washington—Cont'd.																				
Moxee.....	Yakima.....	1,000	18	64.8	+ 0.2	98	1	37	8	51	0.25	- 0.40	0.16	0.0	4	9	20	1	w.	Henry B. Scudder.
Newport.....	Stevens.....	211	8	56.6	- 1.9	86	10	28	13	50	0.74	- 0.42	0.42	0.0	4	18	8	4	w.	Chas. M. Talmadge.
North Head.....	Pacific.....	1,850	11	62.9	- 1.9	96	10	31	4	62	0.21	- 1.80	0.10	0.0	6	17	11	2	nw.	U. S. Weather Bureau.
Northport.....	Stevens.....	1,076	1	64.8	- 1.9	96	10	31	4	62	0.21	- 1.80	0.10	0.0	6	17	11	2	nw.	John Palm.
North Yakima.....	Yakima.....	1,076	1	64.8	- 1.9	96	10	31	4	62	0.21	- 1.80	0.10	0.0	6	17	11	2	nw.	Albert Bender.
Nutland.....	Klickitat.....	1,540	7	65.2	- 2.4	98	10	42	3	38	0.32	- 0.14	0.0	0.0	3	24	3	3	nw.	J. R. Shepard.
Odessa.....	Lincoln.....	50	20	62.5	- 2.4	98	10	32	3	51	0.31	- 0.20	0.0	0.0	3	10	14	6	sw.	Wm. U. Neeley.
Olga.....	San Juan.....	200	32	54.4	- 1.8	73	4	40	3	30	1.31	- 0.11	0.57	0.0	5	11	14	5	sw.	Cecil S. Willis.
Olympia.....	Thurston.....	200	32	57.4	- 1.8	88	10	35	3	48	1.04	- 0.73	0.44	0.0	6	11	6	13	sw.	M. O'Connor.
Omak.....	Okanogan.....	922	1	64.2	- 1.8	100	10	36	6	46	0.15	- 0.15	0.0	0.0	1	17	13	0	sw.	Wm. G. Tait.
Oroville.....	do.....	5,000	1	64.2	- 1.7	90	25	38	3	42	0.15	- 0.98	0.42	0.0	1	17	13	0	sw.	A. M. Dufield.
Peola.....	Garfield.....	1,500	18	62.4	- 1.7	90	25	38	3	42	0.15	- 0.74	0.15	0.0	1	12	16	2	nw.	Samuel Gruell, sr.
Pomeroy.....	do.....	259	15	50.4	- 3.0	74	10	35	3	33	1.35	- 0.48	0.53	0.0	7	4	22	4	nw.	Peter McClung.
Port Crescent.....	Clallam.....	80	20	55.9	- 2.6	76	10	45	12	27	0.97	- 0.57	0.35	0.0	7	7	5	18	w.	U. S. Weather Bureau.
Port Townsend.....	Jefferson.....	2,550	18	59.4	+ 0.2	93	10	33	17	37	0.25	- 1.12	0.25	0.0	1	22	3	5	sw.	Frank Plummer.
Pullman.....	Whitman.....	300	3	55.2	- 3.0	88	10	39	26	42	4.36	- 0.35	0.0	0.0	12	8	20	2	sw.	State Agricultural College.
Quinalt.....	Chehalis.....	2,628	10	55.3	- 3.0	89	10	29	4	48	1.22	- 0.35	0.0	0.0	12	12	8	10	nw.	A. V. Higley.
Republic.....	Ferry.....	1,135	3	58.9	- 3.0	80	10	41	3	30	0.21	- 0.11	0.0	0.0	2	11	3	16	nw.	Geo. B. Stocking.
Rex Creek.....	Chelan.....	1,825	11	62.2	- 2.3	97	9	34	22	46	0.46	- 0.78	0.16	0.0	3	20	6	4	sw.	James W. Nicol.
Ritzville.....	Adams.....	1,750	4	60.0	+ 2.3	91	10	37	2	41	0.28	- 0.78	0.16	0.0	3	20	6	4	sw.	Northern Pacific Ry.
Rook Lake.....	Whitman.....	2,425	18	60.0	+ 2.3	91	10	37	2	41	0.28	- 0.78	0.16	0.0	3	20	6	4	sw.	D. M. Ramsey.
Rosalie.....	do.....	2,870	1	60.0	+ 2.3	91	10	37	2	41	0.28	- 0.78	0.16	0.0	3	20	6	4	sw.	Hans Mumm.
Russells Ranch.....	Yakima.....	2,021	19	57.5	- 2.6	84	10	46	2	30	0.82	- 0.90	0.34	0.0	8	5	10	15	s.	Maggie M. Russell.
Scenic Hot Springs.....	King.....	123	13	59.6	+ 0.2	88	10	36	27	44	3.04	+ 0.14	1.10	0.0	9	10	14	6	sw.	J. V. Prosser.
Seattle.....	do.....	1,240	3	65.7	- 2.1	99	10	40	27	47	0.42	- 0.10	1.00	0.0	4	17	5	8	sw.	U. S. Weather Bureau.
Sedro-Wooley.....	Skagit.....	38	13	59.6	+ 0.2	88	10	36	27	44	3.04	+ 0.14	1.10	0.0	9	10	14	6	sw.	Mrs. H. L. Devin.
Sixprong.....	Klickitat.....	1,240	3	65.7	- 2.1	99	10	40	27	47	0.42	- 0.10	1.00	0.0	4	17	5	8	sw.	C. E. Comstock.
Skagit Power Dam.....	Whatcom.....	123	16	57.2	- 2.1	89	10	33	3	45	2.27	- 0.10	1.00	0.0	10	8	9	13	nw.	Skagit Power Co.
Snohomish.....	Snohomish.....	50	16	59.9	+ 0.5	90	10	37	3	46	1.80	- 1.07	0.60	0.0	8	17	1	12	nw.	Warren Hodge.
Snoqualmie Falls.....	King.....	667	11	59.9	+ 0.5	90	10	37	3	46	1.80	- 1.07	0.60	0.0	8	17	1	12	nw.	O. N. Wiswell.
Snyders Ranch.....	Okanogan.....	2,300	1	54.0	- 3.5	81	10	40	3	34	3.12	- 0.69	0.10	0.0	11	3	17	10	e.	Geo. M. Snyder.
South Bend.....	Pacific.....	16	15	61.4	- 2.0	90	10	41	4	26	0.21	- 1.40	0.10	0.0	4	8	12	10	sw.	Miss Winifred Eichner.
Spokane.....	Spokane.....	1,943	29	57.2	- 2.0	85	10	45	3	32	0.86	- 0.33	0.0	0.0	6	7	8	15	sw.	U. S. Weather Bureau.
State University.....	King.....	170	1	57.2	- 2.0	85	10	45	3	32	0.86	- 0.33	0.0	0.0	6	7	8	15	sw.	University of Washington.
Stokes Ranch.....	Okanogan.....	2,670	1	57.2	- 2.0	85	10	45	3	32	0.86	- 0.33	0.0	0.0	6	7	8	15	sw.	Amos Stokes.
Sullivan Lake.....	Stevens.....	2,700	2	57.8	- 1.1	86	10	35	3	44	1.49	- 0.17	0.21	0.0	3	18	7	5	n.	U. S. Forest Service.
Sumner.....	Pierce.....	77	2	64.2	- 1.1	98	10	36	2	49	0.53	- 1.23	0.47	0.0	3	18	7	5	nw.	H. E. Thompson.
Sunnyside.....	Yakima.....	740	15	57.2	- 2.2	86	10	44	3	34	0.90	- 2.45	0.51	0.0	7	9	8	13	n.	U. S. Reclamation Service.
Tacoma.....	Pierce.....	213	24	52.2	- 0.8	65	4	46	3	17	1.73	- 2.45	0.51	0.0	11	5	9	16	sw.	U. S. Weather Bureau.
Tatoosh Island.....	Clallam.....	86	25	58.1	- 0.8	89	10	35	20	43	0.46	- 0.40	0.0	0.0	5	21	9	0	w.	Do.
Tieton.....	Yakima.....	2,000	1	65.8	- 0.8	101	10	38	3	53	0.57	- 0.48	0.0	0.0	5	15	2	12	sw.	U. S. Reclamation Service.
Touche.....	Walla Walla.....	556	3	65.8	- 0.8	101	10	38	3	53	0.57	- 0.48	0.0	0.0	5	15	2	12	sw.	D. W. Dorrance.
Touche Ridge.....	Columbia.....	2,500	1	65.8	- 0.8	101	10	38	3	53	0.57	- 0.48	0.0	0.0	5	18	12	0	sw.	R. H. King.
Trinidad.....	Grant.....	900	6	68.1	- 0.8	99	10	45	20	40	T.	- 0.48	0.0	0.0	0	27	3	0	nw.	J. C. Wheeler.
Twisp.....	Okanogan.....	1,619	7	61.1	- 1.2	96	10	39	3	43	1.17	- 0.69	1.05	0.0	3	13	13	4	w.	J. S. Allen, Jr.
Tyee.....	Chelan.....	2,000	1	56.2	- 2.2	77	4	40	3	35	0.76	- 1.11	0.33	0.0	7	11	7	12	nw.	Elias McCrea.
Vancouver.....	Clarke.....	100	35	67.5	- 2.2	98	10	40	8	44	0.42	- 0.33	0.0	0.0	2	16	6	8	nw.	A. A. Quarnberg.
Vashon Island.....	King.....	110	21	67.5	- 2.2	98	10	40	8	44	0.42	- 0.33	0.0	0.0	2	16	6	8	nw.	Mias Gertrude McClintock.
Wahluke.....	Grant.....	410	6	65.2	- 3.0	102	10	42	2	45	0.63	- 0.56	0.31	0.0	5	20	6	4	n.	F. C. Koppert.
Wallace.....	Okanogan.....	4,000	1	65.2	- 3.0	102	10	42	2	45	0.63	- 0.56	0.31	0.0	5	20	6	4	n.	G. A. Wallace.
Walla Walla.....	Walla Walla.....	1,000	26	58.0	- 1.4	91	10	34	8	45	T.	- 0.96	0.13	0.0	3	19	9	2	w.	U. S. Weather Bureau.
Waterville.....	Douglas.....	2,624	20	61.0	- 0.9	89	10	40	21	34	0.25	- 0.69	0.13	0.0	3	19	9	2	w.	O. R. Hopewell.
Wenatchee (near).....	Chelan.....	1,169	11	61.0	- 0.9	89	10	40	21	34	0.25	- 0.69	0.13	0.0	3	19	9	2	w.	Geo. A. Fitcher.
West Branch.....	Stevens.....	2,800	1	57.9	- 0.5	92	10	29	21	48	0.60	- 0.47	0.31	0.0	3	16	7	7	s.	U. S. Forest Service.
Wilbur.....	Lincoln.....	2,203	11	58.0	- 0.5	92	10	38	8	41	2.68	- 0.47	1.69	0.0	6	12	6	12	sw.	Rollin J. Reeves.
Yale.....	Cowlitz.....	375	3	58.0	- 0.5	92	10	38	8	41	2.68	- 0.47	1.69	0.0	6	12	6	12	sw.	L. F. Williams.
Zindel.....	Asotin.....	715	8	57.8	- 0.5	92	10	38	8	41	2.68	- 0.47	1.69	0.0	6	12	6	12	sw.	M. W. Zindel.
Oregon.																				
Albany.....	Linn.....	214	28	57.8	- 3.7	92	10	38	2	42	1.16	- 0.19	0.76	0.0	6	10	12	8	s.	F. M. French.
Ashland.....	Jackson.....	1,940	22	62.1	- 0.3	90	9	42	21	41	0.22	- 0.85	0.15	0.0	2	11	13	6	w.	F. H. Carter.
Astoria.....	Clatsop.....	11	48	55.6	- 2.4	75	10	44	3	23	3.45	+ 0.35	1.68	0.0	8	12	10	8	nw.	

TABLE 1.—Climatological data for June, 1910. District No. 12—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oregon—Cont'd.																				
Joseph.....	Wallowa.....	4,400	21	54.4	+ 0.1	85	10	28	8	40	1.14	- 0.68	0.40	0.0	5	18	5	7	s.	F. F. McCully.
Le Grande.....	Union.....	2,784	24	60.8	+ 1.3	93	25	35	8	48	0.46	- 1.04	0.32	0.0	5	21	4	5	nw.	W. A. Worstell.
Madras.....	Crook.....	2,150	1																	Robert Rea.
Marshfield.....	Coos.....	12	6	54.8		69	97	30	2	28	1.61		0.76	0.0	7				nw.	Mrs. E. I. Mingus.
McKenzie Bridge.....	Lane.....	1,400	7	57.2		97	10	31	24	55	2.73		0.66	0.0	9	14	0	16	sw.	Geo. Frissell.
McMinnville.....	Yamhill.....	180	22	57.9	- 1.8	90	10	37	34	48	1.25	- 0.29	1.08	0.0	3	9	5	16	sw.	J. H. Pruett.
Mikkalo.....	Gilliam.....	1,600	4	60.8		95	10	35	21	46	0.69		0.30	0.0	4	24	6	0	w.	Frank Little.
Miramonte Farm.....	Clackamas.....	195	21	60.0	- 0.4	92	10	38	12	42	1.20	- 0.25	0.92	0.0	4	7	13	9	w.	G. M. Muecke.
Monroe.....	Benton.....	350	13	58.0	- 1.5	90	10	36	2	41	0.77	- 0.35	0.59	0.0	7	11	9	10	sw.	L. A. Peek.
Mount Angel.....	Marion.....	485	24	59.6	- 2.0	89	10	42	12	32	1.39	- 0.67	1.34	0.0	2	10	11	9	s.	Dr. W. F. Fisher.
Mount Hood.....	Hood River.....	1,650																		S. G. Babson.
Mountain Park.....	do.....	1,550	4	57.3		88	10	36	3	40	1.77		0.77	0.0	5	11	4	14	w.	M. Markley.
Musick.....	Douglas.....	5,000		45.3		79	10	21	23	46	4.55		1.22	0.0	9	17	3	10	sw.	Alex. Lundburg.
Newport.....	Linton.....	69	22	55.2	- 0.6	68	31	40	3	23	1.95	- 0.90	1.18	0.0	9	15	5	10	nw.	William Matthews.
Pendleton.....	Umatilla.....	1,272	20	63.0	- 1.2	104	10	34	3	62	0.58	- 0.36	0.37	0.0	5	18	11	1	sw.	H. F. Johnson.
Pilot Rock.....	do.....	1,872	1																	John P. McManus.
Pompeii.....	Clackamas.....	3,580	15	48.2	- 0.9	83	10	30	8	39	3.52	- 0.28	1.35	0.0	8	7	10	13	sw.	O. C. Yocum.
Portland.....	Multnomah.....	57	33	60.3	- 1.2	94	10	44	3	36	1.61	- 0.04	1.34	0.0	7	8	16	6	nw.	U. S. Weather Bureau.
Prineville.....	Crook.....	3,000	13	58.0	- 0.2	95	10	28	2	52	0.64	- 0.17	0.28	0.0	4	11	9	10		
Prospect.....	Jackson.....	2,750	4																	E. F. Graham.
Ramsey.....	Wasco.....	1,350		56.0		80	10	31	8	47	1.39		0.58	0.0	6	22	5	3	w.	Mrs. Iva B. Collins.
Range.....	Grant.....	3,500	1	51.3		93	12	20	24	66	0.92		0.42	0.0	5	20	5	5		Craig Thom.
Richland.....	Baker.....	2,350	8	63.8		97	26	35	8	52	0.10		0.10	0.0	1	22	5	3	w.	C. G. Morgan.
Riverside.....	Malheur.....	3,000	11	66.0	+ 3.6	102	28	30	21	63	0.00	- 0.83	0.00	0.0	0	28	2	0	w.	Mrs. Leah Fairman.
Roseburg.....	Douglas.....	523	33	59.7	- 1.0	94	10	39	23	46	1.09	- 0.01	0.48	0.0	8	10	14	6	nw.	U. S. Weather Bureau.
Salem.....	Marion.....	120	20	59.9	- 1.3	87	10	42	12	34	1.19	- 0.09	1.00	0.0	3	11	3	16	nw.	M. P. Baldwin.
Siskiyou.....	Jackson.....	4,115	1	54.2		84	97	32	20	37	0.46		0.18	0.0	4	15	8	7	e.	Lewis F. Bates.
Sparta.....	Baker.....	4,150	17																	Hon. J. A. Wright.
Stafford.....	Clackamas.....	400	13	58.6	- 1.3	93	10	38	13	39	1.65	- 0.14	1.19	0.0	7				sw.	John P. Gage.
The Dalles.....	Wasco.....	112	35	64.5	- 1.9	96	10	43	34	43	0.72	+ 0.17	0.39	0.0	3	23	1	6	w.	S. L. Brooks.
The Heads.....	Curry.....	300	5																	Willis T. White.
Toledo.....	Linton.....	50	20	57.1	+ 0.7	76	24	44	1	30	1.95	- 1.21	1.10	0.0	3	22	5	3	n.	C. B. Croeno.
Umatilla.....	Umatilla.....	340	14	67.8	- 0.9	98	10	42	2	42	0.90	+ 0.58	0.83	0.0	2	22	2	6	w.	Mrs. Helen T. Duncan.
Vale.....	Malheur.....	2,450	18	66.2	+ 2.8	105	26	33	9	64	0.07	- 0.64	0.05	0.0	2	24	6	0	ne.	H. P. Osborn.
Van.....	Harney.....	3,606	4	60.8		97	25	28	8	62	0.05		0.05	0.0	1	17	13	0	nw.	Geo. Howe.
Wallace Orchard.....	Polk.....	170	1	58.4		90	10	38	12	41	1.48		1.10	0.0	3					Chas. A. Parks.
Wallowa.....	Wallowa.....	2,935	7	58.1		94	10	30	8	54	0.31		0.07	0.0	6	14	4	12	nw.	L. J. Coverstone.
Wasco.....	Wasco.....	1,500	2	62.1		90	10	46	0	42	0.71		0.28	0.0	6	20	5	5	w.	A. J. Swift.
Warm Spring.....	Crook.....	1,600	8	59.0		97	10	36	7	61	0.82		0.32	0.0	4	25	5	0	nw.	C. C. Covey.
Weston.....	Umatilla.....	1,800	20	64.5	+ 3.0	102	9	37	24	53	0.85	- 0.47	0.60	0.0	5	13	9	8	sw.	M. A. Baker.
Williams.....	Josephine.....	1,368	17																	J. M. John.

*, b, s, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

* Precipitation included in that of the next measurement.

** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.

† Also on other dates.

‡ Separate dates of falls not recorded.

§ Data are from standard instruments not supplied by the U. S. Weather Bureau.

|| Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

¶ Estimated by observer.

||| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—Daily precipitation for June, 1910. District No. 12, Columbia Valley.

Stations.	River basins.	Day of month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Montana.																																	
Anaconda	Missoula		T.			.02	.04	.32				T.		T.	T.		.23				T.		.05	*	.36						T.	.02	1.04
Bison Mountain	do.		.01			.02	.10	.27	.71						.17		.29					.38	.05	.28	.15					.10			2.53
Columbia Falls	Flathead		.50				T.		.10									.62					.34		.17								1.73
Como	Bitter Root					.07	.08	.13							.08	.03	.16	.01				.13		.19		.01					.07		0.96
Darby	do.																																
Dayton	Flathead				.20			.13										.20				T.			.20								0.73
East Anaconda	Missoula		T.	T.		.06	.17	.21						T.	T.		.15				T.		.11		.22	.14					.12		1.18
Fortine	Flathead		T.	T.	.05													.34	T.			.15	.08							T.	.02		0.64
Hamilton	Bitter Root						.10	.07	.02								.04						.16	T.	.20								0.59
Hat Creek	Missoula		.04				.09	.46	.56					.04	.03		.03	.05					.68	.42	.25						.10		2.75
Kalispell	Flathead		T.	.15	.01	T.	.01	T.	.02								.06	.01	T.	T.	T.	.03	T.	.42	.10						.01		0.40
Lost Creek	Missoula						.48	.15									T.				T.										.40		1.60
McGinnis Meadows	Kootenai		T.	T.		T.	.45	T.									.20				T.	T.	T.							T.	T.		0.65
Missoula	Missoula		T.	T.		T.	.07	.06									.08	.19	.04						.20					.03			0.67
Ophir	do.		T.				.09		.75			.07					.19	.10					.35	.31							.17		2.03
Ovando	do.		T.	T.			.10	.20	.21			.18					T.	T.	.08				.50	.06	.20			T.			.15		1.68
Phillipsburg	do.					.17	.12	.17	.34				T.	T.			T.	T.	.15	T.			.33	.03	.40						.42		2.13
Plains	Columbia					T.											T.						T.										T.
Pleasant Valley	Kootenai		.06	.01			.15											.15	.03			.03	.03							T.	T.		0.46
Polson	Flathead						.56		.16																.40								1.32
St. Ignatius	do.		.07	.03			.07	.35	.01									.29	.03				.04	.44									1.33
St. Regis	Missoula						.17											.09															0.26
Salt Lake	do.																																0.30
Snowshoe	Kootenai		.12	.05			.05		.03			.04	.06				.19	.02	.01			.30	.52	.12	T.					T.	T.		1.21
Troy	do.		.05	T.														T.	T.	T.		.50											0.55
Upper Lake McDonald	Flathead			.09			.25	T.										.34					.23	.02	.27				.03	T.			1.23
Wyoming.																																	
Afton	Snake														.12		.05														.12		0.29
Alta	do.							.08																							.08	.04	0.20
Bedford	do.																																0.04
Snake River	do.							T.										T.												.10			0.10
Nevada.																																	
San Jacinto	Snake						.02										T.	.07													T.		0.09
Utah.																																	
Standrod	Raft							T.										.09	.32											T.			0.41
Idaho.																																	
Atlanta	Boise																																0.24
Albion	Upper Snake																	.24															0.20
Almo	do.																	.20															0.20
American Falls	do.																		.10														0.10
Blackfoot	do.																																0.10
Blackfoot Dam	do.																																0.21
Blanche	Middle Snake																																
Book's Ranch	Boise																																
Bogus Creek	Payette																	.42						.02									0.48
Boise	Boise																	.26															0.30
Bonniers Ferry	Upper Columbia				T.	T.		.05	.02		.08	.13									.31	.70									.08		1.37
Boulder Mine	Boise							.20										.15															0.55
Buhl	Upper Snake				T.	T.											.25																0.25
Burke	Upper Columbia		T.																		.34	.22	T.	.17	.16								0.89
Caldwell	Boise																																0.03
Camas	Lost River Region																																0.01
Cambridge	Middle Snake																																0.08
Chesterfield	Upper Snake																																0.03
Clawson	do.																																
Coeur d'Alene	Upper Columbia																																0.51
Cottonwood Creek	Boise																	.25						.21									0.25
Crawford	Payette																																
Culdesac	Clearwater																																T.
Deary	do.																																
Dent	do.																																
Driggs	Upper Snake																																0.14
Edie	Lost River Region						.04	T.																									T.
Edwardsburg	Salmon																																

[illegible]

[illegible]

Stations.	River basins.	Day of month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oregon—Cont'd.																																	
Grindstone.	Deschutes.																.07	T.				.05											
Gumboot.	S Snake.															.45		.35			T.		.16										
Gurdane.	Columbia.				T.			.04																						T.			
Happy Home.	Umpqua.											.45		.27	.22				.28	.62		.34								.08			
Hay Creek.	Deschutes.										.20					.58		.07	.05	.11		.30								.05			
Hazeldell.	Willamette.										.51	.10			.39				.40	T.	.20	.10											
Head Works.	do.										1.60				.20				.58	.20	.01												
Heppner.	Columbia.				T.										.45	T.	.03	.04	T.			T.								.06			
Hermiston.	Umatilla.								T.						.43																		
Hilgard.	Grande Ronde.														.30	.15				.15		T.											
Hood River.	Columbia.					.20									T.				.40	T.													
Hoover.	Willamette.										.40									1.07													
Howardville Station.	Grande Ronde.							.06			.01				.13	.04	.03			.14	.18	.03									.03		
Huntington.	S Snake.																																
Ibex Mine.	John Day.					.02						T.				.25	T.				.07	.02											
Ironside.	S Snake.														.17																		
Jacksonville.	Rogue.									.06								.33	.05														
Joseph.	Grande Ronde.				.04	.08											.40					.32											
Kamela.	do.																				.20												
La Grande.	do.																																
Lilyglen.	Rogue.										.12	.02				.32	.05		.03	.05		T.									.01		
Long Creek.	John Day.				T.	.12									.21				.03		.10									.04			
Madras.	Deschutes.														.04	.02	.06				.12									T.			
Maurv.	do.															.48						.35			</								

TABLE 3.—Maximum and minimum temperatures at selected stations for June, 1910. District No. 12, Columbia Valley.

Date.	Montana.				Alton, Wyo.		Idaho.																					
	Kalispell.		Missoula.				Boise.		Bonners Ferry.		Hotspring.		Lewiston.		Mackay, Id.		Meadows.		Pocatello.		Salmon.		Shoshone.		Vernon.		Wallace.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	78	49	87	49	84	46	88	55	87	47	96	56	73	56	88	53	78	48	87	60	90	46	87	56	80	49	83	44
2...	50	42	67	42	72	39	67	44	59	36	87	46	69	46	82	47	64	31	71	50	87	43	80	44	80	40	59	38
3...	53	36	64	30	65	24	73	40	67	48	81	38	76	42	72	34	70	30	71	38	70	43	71	35	61	55	63	38
4...	65	33	75	35	71	25	83	46	78	32	86	45	80	45	79	39	79	32	78	40	79	33	80	39	70	30	78	33
5...	78	42	82	40	80	31	82	53	84	38	90	56	83	51	79	45	76	41	81	49	81	39	80	54	80	40	80	40
6...	66	48	73	47	73	33	76	50	73	42	82	51	77	53	79	43	74	39	75	53	74	41	73	45	75	40	75	41
7...	67	41	66	44	75	32	70	48	61	39	80	48	69	49	69	33	64	45	71	44	72	45	70	42	73	35	68	38
8...	60	46	62	45	60	30	69	38	66	38	80	36	76	47	82	33	67	28	66	45	64	36	65	37	70	30	64	38
9...	69	39	77	34	72	25	82	46	79	49	89	39	85	49	81	36	79	31	78	38	79	38	79	36	74	31	79	36
10...	85	43	93	41	80	31	93	58	79	40	98	50	99	53	82	43	89	36	86	48	89	40	87	50	83	39	93	41
11...	77	53	92	60	85	34	88	59	72	48	98	63	80	61	82	42	77	45	86	55	86	43	85	55	86	45	85	52
12...	66	46	73	50	72	39	73	48	66	33	83	53	72	50	84	44	69	38	74	53	74	49	73	48	75	37	68	42
13...	76	36	82	34	77	30	79	44	79	34	84	44	83	44	74	41	80	36	78	42	84	39	76	38	75	34	81	33
14...	80	48	87	47	75	34	90	52	84	34	91	50	85	49	76	42	78	41	85	47	85	42	83	49	82	39	81	42
15...	80	51	86	46	84	34	86	53	81	46	90	54	84	56	82	44	85	41	87	45	88	46	83	46	87	41	80	42
16...	82	51	85	52	75	45	76	53	91	40	89	46	69	51	80	47	75	43	81	55	87	45	79	53	75	55	78	44
17...	72	48	72	45	74	33	83	48	70	48	88	46	76	49	74	39	72	36	79	46	84	42	79	42	78	37	67	43
18...	71	48	80	45	80	41	81	56	73	42	89	48	78	57	78	43	71	47	84	54	83	43	80	50	80	49	72	44
19...	81	43	90	49	84	37	91	52	85	40	94	54	83	53	81	46	79	44	88	51	93	42	87	46	78	42	84	43
20...	70	53	86	51	82	39	74	52	67	42	90	55	69	54	77	43	70	47	80	60	88	42	82	55	86	44	68	48
21...	65	43	68	44	75	38	68	43	62	42	88	43	72	46	70	44	68	38	74	51	77	42	69	47	72	45	63	41
22...	71	40	77	42	77	37	72	45	72	42	84	44	74	49	73	43	69	34	79	53	84	42	75	46	76	44	69	37
23...	70	48	68	45	70	39	73	45	70	49	79	44	79	56	71	45	72	36	71	49	71	51	71	45	69	46	68	41
24...	74	40	81	40	76	27	83	52	78	39	86	44	90	50	76	41	82	32	80	41	83	35	79	38	78	35	80	37
25...	84	45	90	45	80	32	92	54	87	42	95	50	96	55	81	44	89	35	86	44	90	39	86	45	86	38	89	43
26...	91	49	98	51	87	34	100	63	87	47	104	59	90	58	88	46	94	38	92	48	98	40	91	52	89	41	85	46
27...	81	50	94	57	88	38	97	59	83	43	100	58	86	58	86	47	90	47	94	57	97	44	92	59	90	47	83	43
28...	81	56	87	53	81	41	83	56	76	41	96	58	79	57	87	48	79	41	81	63	94	47	82	58	83	51	81	45
29...	80	46	88	45	80	41	86	51	81	39	92	50	84	50	83	47	87	39	85	60	92	45	84	59	85	43	82	39
30...	81	53	87	54	81	40	82	56	67	47	89	58	79	58	82	51	81	44	86	60	90	52	82	57	84	50	80	44
Mns	73.5	45.5	80.6	45.4	77.2	35.0	81.3	50.6	75.5	41.3	89.3	49.5	79.8	51.7	77.9	43.1	76.9	38.8	80.5	50.0	83.1	42.1	79.7	47.5	78.7	41.7	76.2	41.2

Washington.																													
Date.	Aberdeen.		Blaine.		Colville.		Kosmos.		Lakeside.		North Head.		North Yakima.		Odesa.		Port Crescent.		Seattle.		Simpson.		Spokane.		Tacoma.		Tatoosh Island.		
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
1...	58	48	61	50	76	41	79	45	83	55	52	47	73	59	90	46	58	47	60	49	87	62	68	46	60	47	53	48	
2...	60	48	61	48	65	41	61	45	70	47	52	48	72	45	85	40	57	40	60	46	70	43	59	43	60	44	56	47	
3...	76	44	68	38	75	42	77	33	74	48	54	48	78	46	80	32	66	35	68	47	77	50	67	46	66	44	55	46	
4...	73	48	75	41	84	32	88	39	84	48	57	50	85	43	81	39	70	37	81	51	86	55	77	41	81	49	65	48	
5...	57	51	59	49	85	40	75	39	81	55	56	50	85	61	85	48	58	49	60	53	82	60	80	50	58	52	54	50	
6...	.....	.....	54	49	74	38	58	39	74	51	55	50	80	48	79	46	55	41	58	51	73	45	70	48	58	49	56	49
7...	.....	.....	61	41	65	44	59	43	77	48	54	50	70	45	76	45	58	40	60	46	70	42	61	47	62	45	53	48
8...	.....	.....	61	47	72	40	78	40	78	48	54	50	78	44	75	37	57	37	65	46	87	40	70	48	68	46	56	48
9...	74	48	70	50	83	44	83	39	86	53	56	50	86	54	85	44	59	44	73	50	79	47	76	50	76	50	57	48	
10...	86	49	75	44	92	40	94	45	90	55	64	52	96	54	98	47	74	43	84	55	99	62	90	56	86	52	64	48	
11...	58	50	61	52	88	54	77	49	77	51	54	50	72	59	92	57	56	43	60	49	94	63	76	51	59	47	53	47	
12...	62	47	60	40	73	35	68	41	70	47	56	49	75	44	73	37	55	38	64	46	73	40	66	43	64	45	52	46	
13...	58	44	62	44	83	32	72	38	81	47	54	51	82	44	80	35	56	41	66	48	82	49	77	42	67	47	54	47	
14...	62	47	69	44	85	38	69	49	81	59	60	51	85	55	88	37	60	44	67	51	85	55	82	47	70	50	55	48	
15...	65	50	64	49	83	41	73	46	83	55	58	52	84	54	82	41	57	47	66	52	82	49	78	53	66	52	54	48	
16...	60	52	66	51	72	49	64	50	73	60	55	51	68	57	74	54	54	47	63	52	78	54	65	52	63	52	55	48	
17...	59	48	65	48	71	44	62	45	74	48	56	49	72	42	72	46	58	45	61	49	72	44							

TABLE 3.—Maximum and minimum temperatures at selected stations for June, 1910. District No. 12—Continued.

Date.	Walla Walla, Wash.		Oregon.																					
			Ashland.		Baker City.		Eugene.		Gold Beach.		Hermiston.		Marblehead.		Portland.		Prineville.		Roseburg.		The Dalles.		Vale.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	73	49	85	54			86	49	61	51	98	61	61	49	63	51	81	44	74	49	90	57	94	57
2	68	42	73	42			68	39	57	43	79	45	59	39	60	49	64	28	70	43	66	47	74	41
3	76	48	82	43			62	39	63	38	79	41	62	42	75	44	65	39	79	40	78	43	80	38
4	83	51	82	51			72	47	58	47	87	41	60	51	86	52	85	34	72	45	85	45	86	41
5	80	53	70	42			69	51	61	48	87	60	50	50	62	54	84	38	66	51	83	56	85	45
6	73	51	71	46			61	50	60	45	79	52	63	50	61	52	74	33	68	52	69	54	86	50
7	68	50	72	47			64	48	59	47	72	50	64	50	61	50	64	35	71	51	65	50	77	50
8	76	48	82	42			65	42	62	38	80	45	62	51	74	48	78	29	81	42	78	43	75	36
9	88	53	90	49			74	49	63	41	89	46	69	41	81	50	87	36	90	44	86	49	88	33
10	102	57	89	58			80	52	65	41	101	50	69	44	94	58	95	43	94	52	96	53	98	41
11	73	50	67	50			89	53	60	51	98	61	58	50	61	50	81	44	63	51	90	60	97	69
12	72	46	78	49			83	41	58	44	74	46	60	40	68	45	72	30	72	45	73	45	82	45
13	81	48	71	46			67	44	58	33	84	40	58	50	72	53	80	33	63	46	80	46	84	28
14	82	55	62	47			69	48	60	43	86	56	64	50	68	53	80	46	71	51	75	57	91	45
15	82	55	74	46			69	45	62	40	85	57	61	46	67	54	78	36	73	45	77	55	95	59
16	66	54	62	51			69	51	59	48	80	55	62	51	63	53	70	49	64	52	70	58	94	54
17	70	53	65	49			65	43	59	41	75	50	60	42	61	50	70	38	63	45	69	52	81	38
18	74	55	69	49			68	43	63	45	78	55	66	48	68	51	72	48	71	49	72	55	80	56
19	75	56	71	47			70	43	61	48	78	50	66	49	67	53	70	45	68	51	73	56	92	47
20	68	53	59	51			69	48	60	49	73	54	60	48	65	50	80	36	63	46	69	47	80	47
21	71	48	66	43			61	42	59	41	73	45	63	43	63	49	76	44	68	40	69	44	76	37
22	71	52	63	46			62	44	66	45	75	55	63	47	62	51	63	44	62	44	71	54	74	41
23	75	51	76	42			67	44	68	39	79	50	66	40	75	52	70	40	79	39	77	47	82	49
24	87	55	85	49			75	44	61	44	92	48	65	46	81	52	83	39	83	45	83	50	89	38
25	92	61	89	54			78	50	62	46	93	53	63	53	73	55	90	45	80	49	84	55	96	41
26	87	63	84	52			71	46	60	42	93	62	62	52	72	54	84	50	78	51	82	59	105	41
27	83	57	75	50			72	44	60	50	86	52	62	52	71	48	76	46	63	51	79	54	99	44
28	76	54	72	48			67	45	61	43	79	50	64	51	66	50	73	34	71	50	72	53	98	44
29	81	52	75	46			67	45	64	41	84	51	66	45	71	51	80	34	74	44	79	52	94	46
30	77	58	79	46			73	54	64	52	84	57	66	48	69	56	72	50	73	54	76	59	91	42
Means	77.7	52.6	74.6	47.8			69.7	46.1	61.1	44.4	84.3	51.3	62.8	46.9	69.3	51.3	76.6	39.4	72.3	47.2	77.2	51.8	87.4	45.1